ATTACHMENT A

EXCERPT FROM SDG&E REBUTTAL TESTIMONY WITNESS LINDA BROWN DATED JUNE 15, 2007 PAGES 42-43

In the Matter of the Application of San Diego Gas & Electric Company (U 902-E) for a Certificate of Public Convenience and Necessity for the Sunrise Powerlink Transmission Project

Application No. 06-08-010
Exhibit No.: _____

PREPARED REBUTTAL TESTIMONY OF

LINDA P. BROWN

ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

June 15, 2007

consequences. Clearly the addition of Sunrise is superior as compared to the second SWPL as it relates to both the adequacy and security of the SDG&E transmission system by adding a third diverse import path to the SDG&E loads.

There can be no reasonable reconciliation between UCAN's assertion that a second SWPL will "keep the lights on,"[37] based on Table H-8, when in fact Table H-8 clearly states that for the second SWPL alternative, the import would be no greater than today, or alternately that the lights would go out for a credible contingency.

A related alternative to the "SWPL 2"[38] concept raised by UCAN has been called the "Southern Route". The Southern Route would entail constructing new 500 kV transmission from Imperial Valley westward along the route of the existing SWPL, construction of a new 500/230 kV substation between Imperial Valley and Miguel, and construction of underground 230 kV transmission into SDG&E's system. From a system performance and planning standpoint, the Southern Route is superior to a second Imperial Valley-Miguel 500 kV line, as it avoids paralleling SWPL for the entire route, but it is inferior to the Northern Route as proposed for the Sunrise project. The Northern Route provides for future expansion in a way that the Southern Route does not – instead of a 500 kV "dead end" substation similar to Miguel, the proposed Northern Route permits future interconnections at 230 and 500 kV to SCE or IID. The 500/230 kV substation envisioned as part of the Southern Route would be landlocked by public and tribal lands, and thus unavailable for future 500 kV interconnections. The Northern Route also avoids the costs and constraints imposed by undergrounding key parts of the 230 kV circuits. In contrast, the Southern Route parallels the existing SWPL to a point (where the fire concern is

[37] Shames for UCAN, page 18.
[38] SWPL 2 has been discounted by the CAISO for reliability reasons, and SDG&E concurs with the CAISO in that regard.

minimal), but then essentially stops and relies on underground 230 kV transmission to carry power into SDG&E's system. Thus, the Southern Route alternative does not have the system benefit and system performance of a northern routing which includes optionality for the future, a greater potential for upgrades and better asset utilization, and a more effective linkage to the existing network. These benefits have been a matter of study that has gone on for years by SDG&E, the CAISO and many other participants, based on the established reliability criteria, planning standards and other factors, and discussed in forums such as STEP, the Imperial Valley Study Group, and the CSTRP.

XXVII. VIABILITY & TIMING OF TNHC's TRANSMISSION LINE IS QUESTIONABLE

Mr. Wait misrepresents the status of The Nevada Hydro Company's (TNHC) Company's (TNHC) interconnection agreement regarding the combined Talega-Escondido/Valley-Serrano (TE/VS) 500 kV line and the Lake Elsinore Advance Pump Storage (LEAPS) project. Mr. Wait correctly states that the combined project has completed the interconnection study process under the FERC tariff of the CAISO, pursuant to which TNHC was tendered separate Large Generator Interconnection Agreements with SDG&E in February, 2007 (Wait, page 3). SDG&E does not know where TNHC is in the Large Generator Interconnection Agreement (LGIA) process with SCE, but SDG&E is currently in the negotiation process with TNHC to develop an LGIA and should be complete with the next month or two. However, the initial application for this project was filed in April 2005. TNHC's initial interconnection application stated a proposed testing date of the TE/VS 500 kV line to be September 2007. All of SDG&E's recent studies to date have been based on a commercial operating date (COD) of December 2008. Yet Mr. Wait's testimony (pages 3 and 4), states that the new in service date for the TE/VS line is the fourth quarter of 2009. The CAISO has yet to approve this project, the FERC has yet to license the

ATTACHMENT B

CROSS EXAMINATION OF SDG&E WITNESS JAMES AVERY
JULY 10, 2007
RECORD TRANSCRIPT PAGE 306

but --

Q Okay. Your counsel can give you a copy of that.

A Yes, I have it here.

Q All right. And if I'm understanding correctly, in this portion of Ms. Brown's testimony, she is arguing that the proposed route, the SDG&E proposed route, is preferable to the Southern Route that is being examined by the CEQA team through the Commission because the proposed route would provide a greater opportunity for later expansion of the line to 500 kV capability beyond the park; is that correct?

A That's my understanding, yes.

Q All right. So this is an important area, and I just want to explore it with you as carefully as I can.

Is SDG&E arguing that the Commission should make its choice as to what route should be selected if the project were to go forward in part on the basis of whether or not that route would be later expandable to 500 kV deliverable capability?

A I think it's an important factor that should be taken into consideration, yes.

Q And so the company would argue the Commission should reject an option that can't be expanded to 500 kV?

A No. I think the Commission has to weigh that into consideration of all the alternatives and all of

ATTACHMENT C

SDG&E RESPONSE TO
CPUC ENERGY DIVISION DATA REQUEST #15
JULY 8, 2007

A.06-08-010 SUNRISE POWERLINK
SDG&E'S 7/8/07 RESPONSE TO
CPUC ENERGY DIVISION DATA REQUEST #15

Data Request ALT-85

a. Please provide maps showing the most likely routes that illustrate the future 500 kV line that would connect with either SCE or IID. Information should include substation mid-points and endpoints.

b. Describe the estimated timeframe for construction of a 500 kV transmission line between the proposed Central East Substation and the SCE and/or IID systems (e.g., Serrano/Valley Substations).

c. Describe the factors affecting the location and timeframe for the additional 500 kV circuits.

Response

a. SDG&E must accommodate future system growth and expansion as matter of prudent system planning for the long-term thus allowing maximum flexibility to meet demands and changing circumstances as they arise. This does not mean that there are any current plans to expand the 500 kV system beyond what is contemplated by Sunrise. Because it is impossible to determine what route constraints or route opportunities might exist in the future, SDG&E cannot provide maps showing the most likely routes illustrating any future 500 kV line. At this time, SDG&E could speculate on possible end points of such a line from the proposed Central East substation as follows:

- If the CPUC selects the Proposed Route, then there could be a 500 kV line from Central East substation (proposed substation site) or from Central South Substation (alternative substation site in Santa Ysabel) to SCE's existing Valley-Serrano 500 kV transmission line (a new substation could be proposed). On a related point, the Proposed Route has more opportunities for future 230 kV transmission lines to interconnect with SDG&E's system due to location, fewer land constraints for routing getaways and accommodating future transfer capacity increases of the Proposed Project.

- If the CPUC selects a Southern Route, then there could be a 500 kV line from Modified Route D substation site south of I-8 or from the I-8 Alternative substation site north of I-8 to Imperial Substation. A southern route has limited ability to provide for additional 230 kV lines since the underground portion through Alpine is limited to a very narrow road and it will be difficult to add future 230 kV lines. This will limit the ability to provide for future upgrades of the 500 kV line and utilize full potential capacity of the Sunrise Powerlink project.

b. Because SDG&E does not have current plans to construct a 500 kV transmission line between the proposed Central East Substation and the SCE and/or IID systems at this time, it is impossible to specify the timeframe for construction. But it should be noted that the Proposed Project does not rule this possibility out whereas the southern route could make expansion more difficult. In any event, the estimated timeframe for such a line would depend on the requisite permitting and construction in accordance with General Order 131-D and other applicable laws.

c. Factors affecting the location and timeframe for the additional 500 kV (or 230 kV) circuits would include, among other things, how SDG&E's system continues to grow, where would be the right place (from a technical perspective) to upgrade the system, system performance, potential siting opportunities and constraints, permitting implications, the retirement of power plants, utilization of existing rights of way and siting of future generating resources. But, SDG&E cannot speculate at this time if and when such circuits would be needed.

ATTACHMENT D

CROSS EXAMINATION OF SDG&E WITNESS ALI YARI
JULY 16, 2007
RECORD TRANSCRIPT PAGES 894-896

would have to have a substation that we will be filing a CPCN -- or a PTC application for.

However, to accommodate the in-service date of the renewables, we had to enter into an agreement, a contract to secure a factory slot for the 500/230 kV transformers. The lead time for these transformers are -- used to be closer to a year and a half. Now it's to a point where if you enter the market now, you have to wait more than two years for these transformers. So get into an agreement, a contract with off ramps that if the project materialized, we'd be able to purchase these transformers and take delivery.

That's the extent of my understanding on that new project.

Q And if this new Jacumba station slash project doesn't materialize, then SDG&E is not obligated to purchase the 500/230 transformer?

A I don't know the details of the contract, but there is no obligation. As I mentioned, there's off ramps that we have built into the contract. However, given where the market is, we might be able to sell that factory slot and make a little profit on it.

Q I'm interested in exploring with you a little bit more about this possible wind project being in the Jacumba area.

THE WITNESS: I believe that's way outside the scope of my testimony, your Honor.

ALJ WEISSMAN: Well, let me hear the question.

MR. PAYNE: Q Let me ask the question. Have you been asked to do any engineering at all for any portion of that project other than the installation of transformers into a substation; for example, the installation of overhead lines?

A Again, it's outside the scope of my testimony --

ALJ WEISSMAN: Wait a second. That's not your job. You answer the question; okay?

THE WITNESS: All right. We have been asked from engineering point of view to look at the 500 kV substation in the vicinity of Jacumba.

MR. PAYNE: Q And have you been asked to look at the installation of either 500 or 230 kV lines coming in and out of that substation?

A Yes.

Q And would you have 230 kV lines coming out of that substation and connecting into the greater San Diego, urban San Diego 230 kV system?

A My understanding is that that's not the case.

Q Where would the 230 lines be flowing to or from in relationship to the Jacumba substation?

A The 230 lines would be connected to the generators that would be feeding into the substation.

Q And from the substation, how are you transporting the load into the greater San Diego area?

A The plan is at this point to loop the South Star link into the substation.

Q So you would have a tie from the Southwest Power Link which is 500 kV into the substation and you would have 230 kV lines coming from wind generators into the substation; is that correct?

A That is correct.

Q And is there a projected preliminary in-service date for this project?

A I don't remember that. I'm pretty sure there is. I just don't remember off the top of my head.

Q Is it before or after Sunrise?

A I don't remember.

Q Okay, let's jump to another subject. I'm going to take you back to page 2 of Exhibit R-4. Are you aware that SDG&E's rebuttal to RPCC testimony prepared by Ms. Brown states that both circuits of the Sycamore Canyon-Pomerado 69 kV lines suffer from a category B overhead under RPCC's alternative?

A In general terms, yes.

Q You are aware that RPCC recently sent a data request asking for the cost to reconductor these two circuits, correct?

A Yes.

Q The cost estimate provided by SDG&E is $16 million, correct?

A That is correct.

Q And actually, it looks like it's technically 16.7 million; is that correct?

A That is correct.

ATTACHMENT E

CROSS EXAMINATION OF MICHAEL MCCLENAHAN
JULY 17, 2007
RECORD TRANSCRIPT PAGES 1118-1120

delivered and, if so, at what cost.

Q Yesterday, Mr. Yari discussed the development of cost estimate for a new 230/500 kV substation that would be connected to SWPL. Did you hear that discussion?

A Unfortunately, I was not present for that.

Q All right. Are you familiar with this potential substation?

A I am.

Q Do you know where it would be located?

A Somewhere on SWPL between Imperial Valley sub and Miguel. I don't know the exact location. I believe it to be in the area of the San Diego County/Imperial County border roughly, but I do not know the exact location.

Q Is that substation in any way related to a bid in renewable RFO?

A Yes.

Q Was it related to wind generation?

A Yes.

Q Was it related to generation from Mexico?

A The source of the information that I have on that was not a Mexican wind generation project.

Q So your understanding is that it's not related to wind generation from Mexico?

A That's correct.

Q About how much generation would come from the project that this would be related to?

A The first project would deliver, the capacity for the project would be about 125 megawatts.

Q That's just the first part of the project?

A Yes.

Q And how much more would there be?

A Well, there's another offer into us for another hundred megawatts. That's also another project, different developer in the same location that -- I'm assuming, I haven't seen their transmission studies, but I'm assuming they would make use of the same interconnection point, and they are as much as 225 megawatts.

Q For the one that you were addressing with the need for the substation, would generation from this project be considered deliverable even if Sunrise were not built?

A My understanding is that it would not.

Q It would not be deliverable without Sunrise?

A Correct. It would not be deliverable without Sunrise.

Q How long have you been negotiating with this bidder?

A They were bid into our 2005 RFO.

Q And have you been negotiating with them since then?

A On and off. The negotiation's to the point where they need to go back and think, and we need to go back and think. So yes, on and off for that period of

time.

Q When might this power purchase agreement be finalized and provided to the Commission?

A We would have hoped it would be done by now. But the agreement is, I would say, 99 percent complete. So I think it's very close, but I can't give you an exact date.

Q Now, just to round this out a little bit. I'm looking at page 3-4 of your opening testimony. In the first few lines here, you discuss how you understand based on publicly available information that your transmission planning group is pursuing alternative means of accessing the wind resources in the east county. Do you see that?

A I do.

Q Now is this 500/230 kV substation that we've been discussing, is that the alternative means that you're referring to here?

A Yes.

Q Coming out of the 2008 RFO, SDG&E has signed contracts for 131 megawatts so far, is that correct?

A I believe we filed for 133.

Q Is SDG&E still in discussion with other bidders from that RFO regarding bids that were submitted --

A Yes.

Q -- in this RFO? Okay.

How much capacity are you still looking at?

ATTACHMENT F

EXCERPT FROM SDG&E OPENING TESTIMONY
WITNESS VINCENT D. BARTOLOMUCCI
DATED AUGUST 4, 2006
PAGES III-15 THROUGH III-16

SUNRISE POWERLINK

CHAPTER III
RENEWABLE ENERGY

Application No.: A.05-12-014

Exhibit No.: _____

Date: August 4, 2006

Witness: Vincent D. Bartolomucci

assumptions.[17] The final section shows SDG&E's net short differential between these assumptions and projected annual renewable energy resource production from the contracts signed to date. That is, it shows what SDG&E would likely procure subtracting projected contracted for deliveries compared to the assumptions made in SDG&E's Renewable Plan assumptions, in order to achieve a 20% goal in 2010.

In sum, based on experiences in renewable procurement to date, it appears that the significant portion of economic new renewable resource opportunities are located on the eastern edge of SDG&E's service territory and in Imperial County. Below is a synopsis of how the Sunrise Powerlink will be integral in to accessing these opportunities.

C. SDG&E Needs the Sunrise Powerlink to Meet RPS Goals

Hypothetically, given the CAISO's open access regime, it is possible for SDG&E to meet its 2010 RPS goals without the Sunrise Powerlink. But the state's renewables mandate does not call for meeting the RPS goals at all costs. Given the high likelihood of prohibitively costly congestion, and the accompanying chill on renewable development without the Sunrise Powerlink, the Sunrise Powerlink is necessary for SDG&E to meet its RPS goals in a cost effective manner. Further should the state adopt future goals that increase the renewable target beyond 20% to possibly 33%, the Sunrise Powerlink would play a critical role in allowing SDG&E to expand plan to meet these expanded goals.

If Sunrise is not approved or developed, a strong likelihood exists that accessing new renewable resources in Imperial Valley will result in increased congestion costs. In addition, if forecasted congestion costs are high, SDG&E

[17] See SDG&E's Short-Term and Long-Term Renewable Procurement Plans filed with the Commission on April 15, 2005 in R.04-04-003.

may be forced to replace what would otherwise be attractively priced renewable resources with resources from other areas that may be higher priced and may not result in the best overall fit for resources within SDG&E's renewable portfolio mix. SDG&E cannot state for certain what the likely outcome would be if such a scenario were to occur, however, based on offers received (and rejected) in past solicitations, SDG&E's conclusion is that the above would appear likely. Finally, since many of the other areas in California where significant new renewable potential exists are also transmission constrained, the failure to authorize new transmission facilities to access this renewable potential could very well result in the overall failure of the RPS program to achieve its aggressive goals.

This concludes this chapter.

ATTACHMENT G

EXCERPT FROM SDG&E SUPPLEMENTAL TESTIMONY
WITNESS JAN STRACK
DATED JANUARY 26, 2007
PAGES 64-66

SUNRISE POWERLINK

CHAPTER VII
SUPPLEMENTAL TESTIMONY

SDGE
A Sempra Energy utility

Application No.: A.06-08-010
Exhibit No.: _____
Date: January 26, 2007
Witnesses: Linda P. Brown (Reliability)
Jan Strack (Economics)

place in the Imperial Valley, and assuming 100% of the energy produced by the new renewable resources in the Imperial Valley is sold to utilities within the CAISO, the above referenced increase in producer surplus would improve the benefits of the Sunrise Powerlink beyond the results shown in Exhibit H.

2. The Capability of Existing Transmission Lines to "Convey" Renewable Energy to the San Diego Basin

The existing transmission network between the Imperial Valley and the San Diego basin, and between the Tehachapi area and the San Diego basin, is physically capable of delivering enough renewable energy to meet San Diego area load serving entities' shares of California's renewable energy goals for years 2010 (20% of retail sales) and 2020 (33% of retail sales). Because there are multiple high voltage interconnected paths and networks between these renewable resource-rich areas and the San Diego load center, the effective *physical* limitation on delivering energy from these areas to the San Diego load center is the San Diego area all-lines-in-service import capability. Currently this import capability is 2850 MW. Assuming this import capability were used at a 40% annual average capacity factor (which is somewhere between the expected annual capacity factors for wind (20%), solar (40%) and geothermal resources (85%)), approximately 10.0 million MWh per year (2850 MW x 8760 hours x 40%) of renewable energy could be physically imported into the San Diego area.

Based on forecast retail energy sales within the San Diego area for years 2009 and 2019 (22.4 million MWh and 25.0 million MWh respectively), the 20% and 33% renewable energy goals translate into requirements for 4.5 million MWh and 8.3 million MWh of renewable energy in years 2010 and 2020 respectively. This is well below the

10.0 million MWh amount that could reasonably be imported into the San Diego area assuming the average annual renewable energy capacity factor of 40% as described above. In addition, there is already some renewable energy production within the San Diego area so the cushion is actually larger.

While the existing transmission system is physically capable of delivering enough renewable energy from the Tehachapi area and from the Imperial Valley to the San Diego area to meet San Diego area load serving entities' shares of the state's renewable energy goals through at least the year 2020, the existing transmission system is incapable of doing so economically. Renewable energy sources must compete with other sources of electric energy for access to congested CAISO transmission facilities. While renewable energy sources would almost always prevail in this competition—because their variable operating costs would almost always be less than the variable operating costs of competing gas-fired generation sources—and would therefore not be curtailed, they would have to pay the marginal costs of congestion. In addition, when there is congestion on the CAISO grid, prices consumers must pay for energy are increased because the CAISO is forced to ramp-up less efficient gas-fired generation within the California load centers in order to manage the congestion. These inefficient gas-fired generators set the market clearing price for energy that all consumers must pay. The economic studies conducted for the Sunrise Powerlink indicate that because the addition of the new line increases the all-lines-in-service import capability into the San Diego area and alters powerflows elsewhere on the grid, it reduces congestion costs that must otherwise be paid to deliver renewable energy across congested lines and interfaces, and reduces the market clearing prices that will otherwise be paid by consumers within the CAISO control area. Accounting for all impacts, these cost reductions exceed—on a

life-cycle basis—the revenue requirements of the Sunrise Powerlink. Hence, SDG&E concludes that the existing transmission system is not capable of economically accessing renewable energy outside the San Diego area and needs to be upgraded.

It should be noted that SDG&E's analysis is focused on network transmission facilities within the CAISO control area. The work of the Imperial Valley Study Group indicates that upgrades of IID's internal transmission system are needed to accommodate a large expansion of geothermal generating capacity in the Imperial Valley. SDG&E's Sunrise Powerlink analysis assumes that these transmission infrastructure additions will be made.

ATTACHMENT H

EXCERPT FROM SDG&E OPENING TESTIMONY
WITNESS VICTOR KRUGER
DATED AUGUST 4, 2006
PAGE IV-46

SUNRISE POWERLINK

CHAPTER IV
ECONOMIC BENEFITS

SDGE

A Sempra Energy utility

Application No.: A.05-12-014

Exhibit No.:

Date: August 4, 2006

Witness: Jan Strack and Victor Kruger

In summary, SDG&E believes the most meaningful and conservative way to value the Sunrise Powerlink on its own merits is to fix the quantity, mix and location of resources outside of the San Diego area and then compare outcomes without and with the new line. This approach avoids the need to account for the differences in cost that result from different locations and different renewable resource technologies: The location and costs are the same in both the without line and with line cases.

3. The important question: Will the Sunrise Powerlink reduce costs that would otherwise have to be incurred to meet California's renewable goals?

Given the magnitude of renewable resource potential in the Imperial Valley, LSEs within the San Diego basin would have the ability to procure and import enough renewable energy to meet the Commission's 2010 renewable resource goals *even if* the Sunrise Powerlink were not built. The interesting question—the question that the instant economic analysis addresses—is whether building the Sunrise Powerlink will reduce the costs of transmitting energy from the desert Southwest to the California load centers by an amount that exceeds the costs CAISO consumers would incur to build the line.

The cost of transmitting energy from the desert Southwest to the California load centers is comprised of transmission losses and congestion. With respect to congestion it should be noted that energy from renewable energy sources has relatively low variable operating costs and is therefore unlikely to be physically curtailed in the event congestion arises. Instead congestion will typically be managed by curtailing combined cycle generation with relatively higher variable operating costs.

So, while it is reasonable to expect that the Commission's 2010 renewable resource goals could be *physically* achieved even if the Sunrise Powerlink were not built,

ATTACHMENT I

EXCERPT FROM SDG&E REBUTTAL TESTIMONY
WITNESS JAMES AVERY
DATED JUNE 15, 2007
PAGES 5-8

In the Matter of the Application of San Diego Gas & Electric Company (U 902-E) for a Certificate of Public Convenience and Necessity for the Sunrise Powerlink Transmission Project	Application No. 06-08-010 (Filed August 4, 2006)

Application 06-08-010
Exhibit No.: _____

PREPARED REBUTTAL TESTIMONY OF
JAMES P. AVERY
ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

June 15, 2007

latter project has only fostered the emergence of 4,300 MW of new generator interconnect requests to the CAISO for the development of new wind resources in the Tehachapi region. In contrast, it appears that the pending Sunrise Powerlink project - still in the Commission's CPCN process - has already fostered over 6,000 MW of new generator interconnect requests in the CAISO queue for renewable resources.[3] Given the documented renewable potential in and near the Imperial Valley, the Sunrise Powerlink is already an important component of the State's energy strategy. As I testified earlier, Sunrise will immediately provide large-scale access to some of the most promising sites for renewable development, encourage developers to invest in additional ventures, and provide SDG&E with the ability to deliver that power at a lower cost than the alternatives. Indeed, given the more than 6,000 MW of interconnection requests in the CAISO queue that would benefit from Sunrise as described by Ms. Brown, it is beyond dispute that the Imperial Valley, and surrounding areas, offers renewable potential far in excess of existing delivery capability.

B. UCAN is simply wrong about Sunrise and Imperial Valley Renewables development.

UCAN postulates that there will be little if any renewables developed in Imperial Valley and that what is developed can be delivered to San Diego with or without the Sunrise Powerlink (Marcus at 90-103, 137).

At present, as noted above, the CAISO queue contains in excess of 6,000 MW of generator interconnect requests to the SDG&E system, all of which would rely on capacity made available by the Sunrise Powerlink for deliverability to the CAISO system. In addition, IID has

[3] This does not include generator interconnection requests that are managed by LADWP that would utilize the Green Path North project, or the almost 500 MW of requests that are managed by IID, which would benefit from Sunrise.

received almost 500 MW in generator interconnect requests which could also benefit from Sunrise.

The Sunrise Powerlink is the only viable alternative by which this energy can be delivered to San Diego without creating undue congestion. Alternatives that have been analyzed, and rejected, include options such as new transmission through Mexico, a new transmission link parallel to SWPL, and utilization of the Green Path North Project. New transmission through Mexico as well as a second SWPL had been analyzed under the STEP process and rejected. Ms. Brown's testimony details why these options don't work. And the suggestion that the Green Path North Project is an alternative to Sunrise has been rejected by LADWP, the sponsor of that project, as documented in a letter from Henry Martinez to Commissioner Dian Grueneich dated April 13, 2007, wherein Mr. Martinez states (emphasis added):

> While discussed as coordinated, the Green Path North Project is separate and distinct from the Green Path Southwest/Sunrise Powerlink Project. The two projects are designed to serve the requirements of different load centers. Further, the LADWP anticipates that the Green Path North Project will be a critical link in the City's mandate to securing 20% of its resource requirements from renewable energy by 2010. And while the Green Path North Project will play a significant role in the LADWP's plan to secure renewable resources, ***it should not*** be viewed as an alternative to the Green Path Southwest/Sunrise Project. Nor is the Green Path Southwest/Sunrise Project an alternative to the Green Path North.

UCAN also suggests other options may materialize making the need for Sunrise moot, yet UCAN has presented no analysis of the feasibility of the hypothetical and speculative alternatives it proffers. Project opponents would reject Sunrise as a pillar of renewables strategy based only on beliefs that renewable resources will prove more costly than other alternatives, that new technology will fail, will be in short supply or will somehow re-materialize at lower or

similar costs and benefits within SDG&E's service territory or at other locations outside of the Imperial Valley.[4]

SDG&E has embarked on a very aggressive program to expand its use of renewables. Since 2002, SDG&E has conducted seven solicitations for renewables and has signed contracts for hundreds of megawatts of new renewable capacity. If the natural resources were available, along with adequate land to host such projects within the San Diego load basin, and developers could cost-effectively develop these projects, they would bid them into our solicitations. Unfortunately, our experience demonstrates that, contrary to UCAN's suggestion, the potential for siting renewables within the SDG&E load basin is limited to relatively small projects and is not remotely feasible. On the other hand, our experience also demonstrates that the potential for siting renewables in the vicinity of Imperial Valley substantiate our findings that this region is rich in renewable resources. The Sunrise Powerlink, with the capability to deliver up to 1,000

[4] Especially naive is UCAN's vague "site banking" proposal (UCAN, Shames, at 38-40), which posits that SDG&E could somehow encourage renewable development in San Diego by creating energy parks. If there is so much real estate close to San Diego available for such an endeavor, it will be exploited by developers in the RFO process. UCAN does not attempt to reconcile its fantasy with the timing and imperatives of the RPS competitive solicitation and project approval process, or why it must rely on SDG&E's initiative to secure sites for future development. Further, to accept UCAN's proposal, one must believe that it would be relatively easy and inexpensive to acquire what could be over 100 high-value sites [e.g. the proven right location for renewable energy development] that could be as large as 100 acres each in the east county of San Diego, and that ranchers, retirees and others would be willing to accept these energy parks on their landscape. This proposition is belied by the nature of active interventions in this case, where there are strong challenges from backcountry residents, as well as from those who knowingly purchased homes near a pre-existing transmission corridor. And one would have to believe that all of this energy could be delivered over a relatively weak 69kV transmission system with little or no system improvements. Yet, UCAN identifies no specific sites for consideration, and conducts no analysis to substantiate its assertions that this proposal is even remotely feasible.

MW of capacity, is SDG&E's connection to deliver these renewables on an uncongested basis.[5] And, our experience demonstrates that developers have not had any difficulty finding the natural resources, coupled with the necessary land such that they can economically justify bidding such projects into our solicitations.

One final point in this regard is that UCAN postulates that renewables will be built with or without Sunrise. The fallacy in this argument is that absent a transmission project that would make renewables deliverable to the CAISO system being sponsored by an entity such as SDG&E, under current FERC interconnect rules, renewable developers must advance the cost of the necessary upgrades in order to make their energy deliverable. Absent Sunrise, and the sheer fact that there is no other viable alternative to deliver the available renewable energy from the Imperial Valley region, developers will not be able to fund such an endeavor on their own. This is especially true since a major portion of the renewable projects are being developed by small companies trying to establish themselves and who already have difficulty meeting the basic credit requirements to sell to a utility, without having to fund a major transmission endeavor.

C. Project opponents would risk Reliability by betting on conservative forecasts, just-in-time fixes, novel programs, and the timely emergence of speculative projects.

As for reliability, project opponents would have San Diego rely on a patchwork of small, largely unproven alternatives to ensure long-term reliability, coupled with a bet on low demand forecasts, as well as on a belief that the CAISO should (or would) relax prevailing reliability standards. The risk of their wager is compounded by counting resources that are, at best,

[5] It is difficult not to conclude that SDG&E's pursuit of the Sunrise Powerlink contributed substantially to the robust developer interest in delivering renewable energy across this proposed line.

ATTACHMENT J

OPENING STATEMENT OF MICHAEL NIGGLI
JULY 9, 2007
RECORD TRANSCRIPT PAGES 97-98

decision to go green. Adoption of the Renewable Portfolio Standard requires 20 percent renewables by 2010. That's a tall order. And the Assembly Natural Resources Committee is today reviewing a version of SB 411 which could push that requirement to 33 percent by 2020.

SDG&E strongly supports the shift towards cost-effective renewables, but transmission is needed. SDG&E cannot meet the state's renewable energy portfolio with local renewable energy resources alone. Every year since 2002, SDG&E has issued requests for offers to renewable energy developers, and to date we only have about 90 megawatts worth of local projects online.

We will need around a thousand megawatts total to meet RPS standards in 2010. Sunrise will help us cost-effectively meet those standards.

The Imperial Valley Region could quickly become of the state's leading producers of renewable energy. Enormous supplies of solar, wind and geothermal energy are waiting to be developed, but Sunrise Powerlink is needed to cost-effectively export that power to California load centers, not just San Diego.

The interest in developing these resource is staggering. As of July 2nd, there is 7,144 megawatts of renewable energy projects in the CAISO queue that could connect to the SDG&E system.

We also received bids for approximately 5,000 megawatts of renewable resources in our latest

RFO, but without new transmission, many, if not most, of these projects will stall or fail.

Some suggest that renewables can be imported over existing transmission lines. That short-sighted plan will only further congest our system, increase costs for our customers and send signals to renewable developers that the state is not serious about its policy mandates for greenhouse gases or renewables.

Connecting the Sunrise Powerlink to these clean resources benefits not only the environment and the CAISO customers, but also the Imperial Irrigation District.

SDG&E is enthusiastic about a partnership with IID on the Sunrise Powerlink, and we look forward to completing negotiations soon. Working together is in the best interests of both utilities and our combined customers; however, recognizing that complex deals like this are never certain and take a considerable amount of time to consummate, SDG&E's application requests authority to build the line on its own with or without IID as a partner. Our case addresses the nature and cost of a potential IID participation.

Now with respect to greenhouse gas reductions, SDG&E's testimony will show compliance will require a minimum of 33 percent renewables. It will have the effect of severely limiting the development of new fossil power plants to meet customer needs. That makes the position of some parties who insist reliability

ATTACHMENT K

EXCERPT FROM SDG&E REBUTTAL TESTIMONY
WITNESS WILLIAM J. KEMP
DATED JUNE 15, 2007
PAGES 2-6

In the Matter of the Application of San Diego Gas & Electric Company (U 902-E) for a Certificate of Public Convenience and Necessity for the Sunrise Powerlink Transmission Project	Application No. 06-08-010 (Filed August 4, 2006)

Application No. 06-08-010
Exhibit No.: _____

PREPARED REBUTTAL TESTIMONY OF
WILLIAM J. KEMP
ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

June 15, 2007

2.3 The key questions that I will focus on answering include:

- Would access to the Sunrise Powerlink encourage higher levels of renewable generation development in the Imperial Valley region?
- Would the Sunrise Powerlink facilitate achievement of SDG&E's goals for renewable generation?
- Are regulators in other states taking any actions to encourage the siting and construction of transmission lines to connect to renewables energy sources, that the California PUC might consider in this proceeding in determining the need for Sunrise Powerlink?

I offer no opinion relating to integrated resource planning methodologies, or the relative costs of SDG&E's options for supplying electrical energy and capacity to its customers. Those topics are addressed by other SDG&E witnesses.

2.4 To develop my testimony in this proceeding, I relied primarily on my own relevant industry experience and knowledge, especially my experience in advising developers or purchasers of generation and transmission projects. I conducted a high level review of the facts in this certification proceeding that relate to renewables development and RPS targets, and reviewed publicly available information on similar transmission lines elsewhere in the United States.

3. IMPACT OF SUNRISE POWERLINK ON THE ECONOMICS OF RENEWABLES DEVELOPMENT

3.1 In the following discussion, I will speak initially about Independent Power Producers (IPPs). Projects that use renewable energy resources are a subset of IPPs. I will address general IPP matters first, and then discuss renewable resources more specifically.

3.2 An appreciation of the perspective of an IPP is essential to understanding how access to the Sunrise Powerlink would affect renewables development in the Imperial Valley region. Unlike regulated utilities, an IPP has no regulatory assurance of recovering the cost of its investment or earning a return on it. Its capital investment is at risk. Like any other investor in competitive markets, the IPP is engaged in a search for attractive returns. An IPP will invest in a new generation project only if it is confident that it can earn a rate of return greater than its cost

of capital. That cost of capital will reflect its risk profile, as assessed by its equity or debt investors.

3.3 The heavy debt burden borne by the typical IPP limits its financial flexibility. IPPs' balance sheets are normally more leveraged than a utility. Their equity capital is generally more limited, and not adequate to fund more than a small portion of the cost of developing a project. Most IPPs obtain their debt capital through project financing, where the lender does not have recourse to a parent company or other financial backer. Accordingly, the lender will look for a strong assurance of adequate revenue before it commits to making a loan. The execution of off-take agreements by an IPP and its intended anchor customers is a crucial step for obtaining financing. While it was possible in the energy boom of the late 1990s to get a lender to commit debt capital on a purely merchant basis (i.e., on simply the prospect of unregulated sales in a robust market), almost all lenders now require a substantial portion of the output of a new plant to be covered by longer term power sales agreements with creditworthy counterparties.

3.4 The relatively thin equity base of the typical IPP means that sustained negative cash flows are not viable. Building a power plant requires heavy capital expenditures to procure land and equipment and pay for construction. Debt service normally commences upon project commissioning. So IPPs need their projects to be up, running, and generating revenue as quickly as possible.

3.5 The result of these basic facts of economic life is that generating plants are not built ahead of access to their markets. Generation project developers may undertake early development activities for promising projects (e.g., obtaining places on interconnection queues, or taking out options on land), but they will not "pull the trigger" on more expensive activities such as permitting basic design or procurement of equipment until all the essential elements are in place. Transmission links to their customers are definitely essential. Debt service after project commissioning cannot be continued for long without revenue from sales to customers. Indeed, banks would not provide financing to an IPP project without evidence that adequate transmission interconnections will exist by the time of the project's commercial operation date.

3.6 Due to the integrated nature of the wholesale power generation and transmission systems, a "chicken or the egg" conundrum can cause difficulties for orderly development of renewable energy resources and related transmission facilities. One manifestation of this conundrum is the issue of funding for interconnection facilities. Where renewable energy

projects can readily connect to a nearby unconstrained transmission system, the additional cost for transmission facilities will not pose a large barrier for attractive projects. However, if the transmission system is constrained and generation project developers are required to provide up-front capital contributions for the required upgrades or new lines, the financing burden and risks for the developers increases substantially. Their capital needs increase and their financial profile becomes riskier in investors' eyes. Fewer projects would be able to obtain financing, and those that did would pay higher costs for capital, with consequently higher prices to customers like SDG&E. This is especially true for developers of renewable energy projects, who are typically smaller and more thinly financed than developers of large fossil-fueled plants.

3.7 On the other hand, financing for a line like the Sunrise Powerlink could be obtained more quickly and at lower cost by a well-capitalized utility such as SDG&E. Its cost of equity capital is significantly lower than that of the typical IPP, and it also enjoys lower costs for debt. Its weighted cost of capital is lower, despite the lower leverage. (This capital cost advantage is to be expected, since regulators encourage utilities to structure their balance sheets to minimize costs of capital.)

3.8 Stepping back and looking at the issue from a fundamental level, one must recognize that the wholesale power system operates as an interconnected whole. All generators must be linked to loads through transmission or distribution lines. Building one without the other would be a waste of money. Transmission lines such as Sunrise Powerlink serve as an essential transport path to bring generated electricity to market, just as other modes of transportation move other types of goods to market. In the case of the electricity industry, transmission lines also serve as a bi-directional pathway to provide emergency or short-term support from one system to another.

3.9 Thus, from the Independent Power Producer's perspective, the improved access to markets enabled by the Sunrise Powerlink will increase the range and volume of financially viable projects that could be developed. If the Line is not built, would-be project developers in the Imperial Valley will be constrained to the customers they can access through existing available transmission capacity, which is fairly limited, and perhaps other new lines out of the Imperial Valley, if they are built (e.g., the proposed Los Angeles Department of Water and Power's 500 kV Green Path North project). Either way, the renewable energy would be

absorbed by other California utilities, renewable energy sales opportunities would be smaller, and SDG&E would be no closer to meeting its renewables targets.

3.10 If the Sunrise Powerlink is built, the pathway to market will be much larger. IPPs will have the capability to negotiate sales contracts with customers such as SDG&E, municipal utilities, or other load-serving entities. They will also be able to contract for transmission service to deliver their product to those customers. Two out of the three major drivers in a generation project's operating income – revenue and transmission costs - will be nailed down.[1] The risks faced by investors will be much more manageable. Good projects will find it much easier to obtain financing and commence development. This could happen for only a much smaller volume of projects if the Line is not built.

3.11 This economic logic holds for any type of generation. In the foreseeable future, the primary generation resources for which the Imperial Valley region offers advantageous development conditions are geothermal, solar, and perhaps wind. This is due to the combination of the resources available in the Imperial Valley region and the demand of load-serving utilities for generation from renewable resources, under the Renewables Portfolio Standards requirements of the State of California. But the Sunrise Powerlink will be an asset with a useful life of fifty to one hundred years. It can serve to link all types of generation and loads, as the power industry and its technologies develop. It can also be expanded or interconnected with new lines.

4. POSITIVE IMPACT OF READY TRANSMISSION ACCESS

4.1 One need not look far to find many examples of the impact of transmission access on the siting decisions of generation project developers.

- Generation plants in the early decades of the electricity industry were located near the loads they served, simply because long-distance transmission was not available.
- The great bulk of the greenfield gas-fired or coal-fired generation plants built by IPPS since the late 1990s were sited in locations with ready access to the

[1] The other major driver is generation costs. Taxes (and tax credits) are also a significant consideration for renewables, but projects must still deliver their output before most tax credits can be claimed.

three vital transportation modes: electrical transmission lines (path to market), gas pipelines or rail/water access for coal (fuel supply), and roads (construction and operations). In the heyday of the energy boom, siting for new combined cycle combustion turbine (CCCT) projects involved little more than finding intersections of major electric and gas transmission lines. Developers and investors became more selective when the market got tougher. But the obvious truth is that nobody built generation projects where they did not have (or could not reasonably expect) access to transmission.

4.2 Another twist on this market reality is that sites of decommissioned or mothballed generation plants are attractive locations for developing new generation projects, because they offer ready transmission access.

- Many CCCTs have been built on or near the sites of old, decommissioned generating plants. The transmission access is already there (although sometimes upgrades are required).
- In at least two examples of which I am aware, combustion turbine plants were developed on or adjacent to the sites of mothballed nuclear projects, in large part because high capacity transmission lines to the site had already been built and were very available. These nuclear projects were WNP-3 in Washington state and Shoreham in New York.

4.3 These examples serve to reinforce the basic truth of "If you build it, they will come." Of course, the reality is a bit more complex. You would not build it (a new transmission line) until you had a reasonable expectation that they indeed will come. And only the financially viable projects would come.

5. EFFECTS OF LACK OF TRANSMISSION ACCESS

5.1 The flip side is also true. "If you don't build it, they won't come." The fundamental interconnected nature of the wholesale power system means that generation plants will not be built without transmission access, unless they serve only local loads.

5.2 The development of North America's wind power resources has been limited by this basic fact. It is sometimes said today that most of the good wind power sites have been

ATTACHMENT L

CROSS EXAMINATION OF SDG&E WITNESS JAMES AVERY
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MR. SHAMES: It will be my blood, yes.

ALJ WEISSMAN: -- we will move ahead.

However, before -- Mr. Shames, before you ask questions, I want to give Commissioner Grueneich an opportunity to ask a couple of questions.

COMMISSIONER GRUENEICH: Thank you.

EXAMINATION

BY COMMISSIONER GRUENEICH:

Q I have, I think, two questions based upon what I heard this morning in the presentations and oral statements that I just want to make sure I understand.

And the first question has to do with the handout from SDG&E, and they are not numbered, but the one that has the renewable queue. And at least my notes was that when Mr. Shames was speaking, he stated that in the interconnection queue on this page that only about 900 megawatts -- and that was specifically from the Imperial Valley Substation -- was dependent on Sunrise. And I wanted to get your perspective, whether you agree, disagree, with that claim.

A Bear with me one second.

Q And since I've just dropped into the hearing, so to speak, if you are not the right witness, I'll leave it to Mr. Weissman to follow up with the question.

A I believe that's an oversimplification.

This exhibit shows about 700 megawatts -- 7,000 megawatts, I'm sorry, of renewables that are in the interconnect queue, the ISO queue. All of these

resources would benefit from capacity that's made available from Sunrise.

That's not to say that all of these could be delivered on Sunrise. Sunrise does not have the capability of 7,000 megawatts. But Sunrise would basically free up capacity for any one or all of these projects potentially to take advantage of.

Q I thought I heard Mr. Shames making a slightly different point, which was that -- and I'm somewhat interpreting this, so again, I'd like to get your perspective, which is if you took all of the locations other than Imperial Valley Substation, I thought the point that Mr. Shames was making -- that, for example, he's counting 237 megawatts, Imperial Valley Substation 2,000 -- that those megawatts in the queue were not dependent on Sunrise. In other words, physically they could be delivered onto the system using transmission other than Sunrise. And so, again, I wanted to get your perspective as far as that claim if I was understanding correctly.

A Ultimately, it's the ISO who determines deliverability of any one of these resources.

And Linda Brown can actually go through each one of these in a lot more detail and give you the technical ramifications of trying to connect any one of these generators to the system.

But a high level, we are in a situation where we have significant amount of generation already

connected at the Imperial Valley Substation. Those generators have protection schemes on them, and the ISO determines how much protection they will allow on the system. And any one of these generators would put us over that threshold or could put us well over that threshold so that they would not allow these to interconnect, whether it's on the Southwest Powerlink or the Imperial Valley Substation, unless additional transfer capability were in place between the Imperial Valley Substation and San Diego. And in this case the Sunrise Powerlink would satisfy that requirement.

Q So, in other words, for all of these you see there does need to be additional transmission, and Sunrise is an option that could provide that transmission?

A Absolutely.

Q And I guess that will be what everybody else gets into, whether there were other options beyond Sunrise that could also satisfy?

A That is correct.

Q Then the other area I just wanted to again get your perspective on was in some ways I felt that the discussion or the arguments this morning were almost two different transmission lines in that there was from SDG&E and several of the other parties emphasis on how this project if approved can increase access to renewables and to basically the system buildout of the Imperial Valley area.

ATTACHMENT M

EXCERPT FROM SDG&E REBUTTAL TESTIMONY
WITNESS LINDA BROWN
DATED JUNE 15, 2007
PAGES 49-50

In the Matter of the Application of San Diego Gas & Electric Company (U 902-E) for a Certificate of Public Convenience and Necessity for the Sunrise Powerlink Transmission Project

Application No. 06-08-010
Exhibit No.: _____

PREPARED REBUTTAL TESTIMONY OF

LINDA P. BROWN

ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

June 15, 2007

As a result, SDG&E[46] is now limited in terms of what it can import beyond the Imperial Valley. Though SDG&E did receive an increased allocation of the AZ-CA system via the recent Path 49 Upgrades; since around 2004 it cannot presently use all of its import capability due to the limitation at Miguel.[47]

It is for this very reason that the DRA's statement is off target. In fact Sunrise will allow new renewable resources to be imported into SDG&E's system (the CAISO grid) from the Imperial Valley area. It will also increase CAISO grid access to other resources or markets in the Desert Southwest by eliminating the bottleneck that now exists from the Imperial Valley into SDG&E's system that potentially results in under-utilization of Desert Southwest resources. Based on the historical trends that have been illustrated in terms of upratings that have occurred on major transmission facilities, it is reasonable to deduce that over time, the rating of Sunrise may also increase in a similar fashion, making it even more effective in providing access by the CAIO to both Imperial Valley resources and other Desert Southwest resources.

XXXI. SUNRISE HAS SPURRED THE INTEREST OF RENEWABLE DEVELOPMENT IN THE IMPERIAL VALLEY

SDG&E agrees with DRA that a key benefit of enhancing the CAISO's connection to IID is gaining more economical access to IV renewable resources (Woodruff, page ES-4). Table 4 below shows the renewable generation projects in the CAISO queue as of June 11, 2007 that are proposing to interconnect in the San Diego area. Since SDG&E's January 26th filing, more than

[46] Throughout this discussion, it should be understood that references to SDG&E's import capability are in the context of SDG&E being one of the Participating Transmission Owners (PTOs) of the California Independent System Operator (CAISO), and that the CAISO has Operational Control over the system of SDG&E and the other PTOs.

[47] SDG&E's 1162 MW allocation on the SWPL from Arizona, combined with power injections at Yuma (55 MW) and Imperial Valley (1350 MW), result in a capability of up to 2567 MW. However, the power limit into Miguel at the 500 kV level is 1750 MW, representing a deficiency that has existed since 2006 in terms of transmitting available power from Imperial Valley (or any Desert Southwest source) to SDG&E's system.

3500 MW of new renewable interconnections have been proposed in the Imperial Valley region. In addition, there is an additional 1,900 MW in the queue that will benefit from the Sunrise Powerlink through the additional capacity that will be made available. This doesn't include the 495 MW of renewables in IID's generator interconnection queue.

Table 4
Active Renewable Generation Projects in the CAISO Queue

As of June 11th, 2007

LOCATION	MW	RENEWABLE TYPE
East County	354	Wind
Imperial Valley Sub	1400	Solar
Imperial Valley Sub	3000	Wind
Border Substation	27	Biomass
SWPL	1580	Wind
Miguel Substation	500	Wind

As SDG&E witness William Kemp testifies, the Sunrise project will allow developers of renewables to consummate power sales contracts with customers such as SDG&E, and to contract for transmission service. This will greatly facilitate financing for the projects since it will both reduce a substantial development risk involving access to the grid and will increase the range and volume of financially viable projects that could be developed.

XXXII. NO NEED FOR A SAN DIEGO GRID RELIABILITY ACTION PLAN

The testimony of Division of Ratepayer Advocates[48] states that they believe the Commission should implement a "San Diego Grid Reliability Action Plan" and the Commission should pursue this planning exercise in parallel with its analysis of Sunrise.

SDG&E disagrees with this need for a separate planning regime since system resource needs have been and continue to be included in the Commission's long-term procurement planning proceedings. Grid wide resource needs and the role of transmission as part of a

[48] Phase 1 direct testimony, Volume 1 of 5 (Kevin Woodruff), page ES -8, lines 5-7.

ATTACHMENT N

EXCERPT FROM CAISO REBUTTAL TESTIMONY
DATED JUNE 15, 2007
PAGES 54-56

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

In the Matter of the Application of San Diego Gas & Electric Company (U-902) for a Certificate of Public Convenience and Necessity for the Sunrise Powerlink Transmission Project.	)))))	Application No. 06-08-010 (Filed August 4, 2006)

REBUTTAL TESTIMONY OF THE

CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION

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Vice President and General Counsel
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Dated: June 15, 2007

Q. Can the Commission rely upon a single $15.7M/year deferral value to decide the optimal timing of the Sunrise project?

A. No because (a) if the future project cost escalation rates are higher than UCAN's 3.1% estimate, as the CAISO believes, the benefits of deferring Sunrise decline; and (b) the benefits of deferral are highly sensitive to changes in RPS costs.

Q. What is the basis for the CAISO's belief that transmission escalation will exceed UCAN's 3.1% estimate?

A. Recent years have seen rapid increases in construction costs due to factors such as global demand for raw materials in China and India. The DRA acknowledges this rapid escalation in its testimony.[90] The Edison Electric Institute shows transmission cost escalation rates that average 9.0% per year (9.5%, 8.0%, and 9.4%) for the 2004 -2006 period.[91] VELCO's Northwest Vermont Reliability Project, Docket 6860, shows a 10% per year escalation rate.[92] SDG&E responded to the CAISO data request that labor costs have increased 30% in two years, and component cost increases are approximately 80% per year.[93]

Q. How would Sunrise net benefits change under different transmission cost escalation assumptions?

A. The figure below shows Sunrise net benefits by in-service date and cost escalation. Based on Table 5, each line on the figure shows the relationship

[90] Woodruff, 45.
[91] Table 9.1 Construction Expenditures for Transmission and Distribution, available at http://www.eei.org/industry_issues/energy_infrastructure/transmission/Transmission-Investment-expenditures.pdf. The cost escalation rate is computed as the difference between (a) the nominal expenditure growth rate; and (b) the real expenditure growth rate.
[92] The original estimate was filed on June 5, 2005 based on estimates prepared in 2002 and 2003. The adopted estimates were 29% higher and presented to VELCO in June 2005. Assuming 2.5 years of inflation, the annual inflation rate is 10%.
[93] SDG&E response number 3 to CAISO data request No. 1.

between Sunrise benefits and in-service dates, conditional on a specific transmission cost escalation rate. From this figure, the following observations can be made:

- At the 3.1% escalation rate, the in-service date with the highest net benefits is 2016.
- At the 5.5% escalation rate, the in-service date with the highest net benefits is 2013.
- At the 9% escalation rate, the 2010 in-service date produces the highest net benefits.
- If the escalation rate turns out to be 15%, Sunrise's benefits declines rapidly with deferral, turning negative in year 2013 due to increased construction costs.

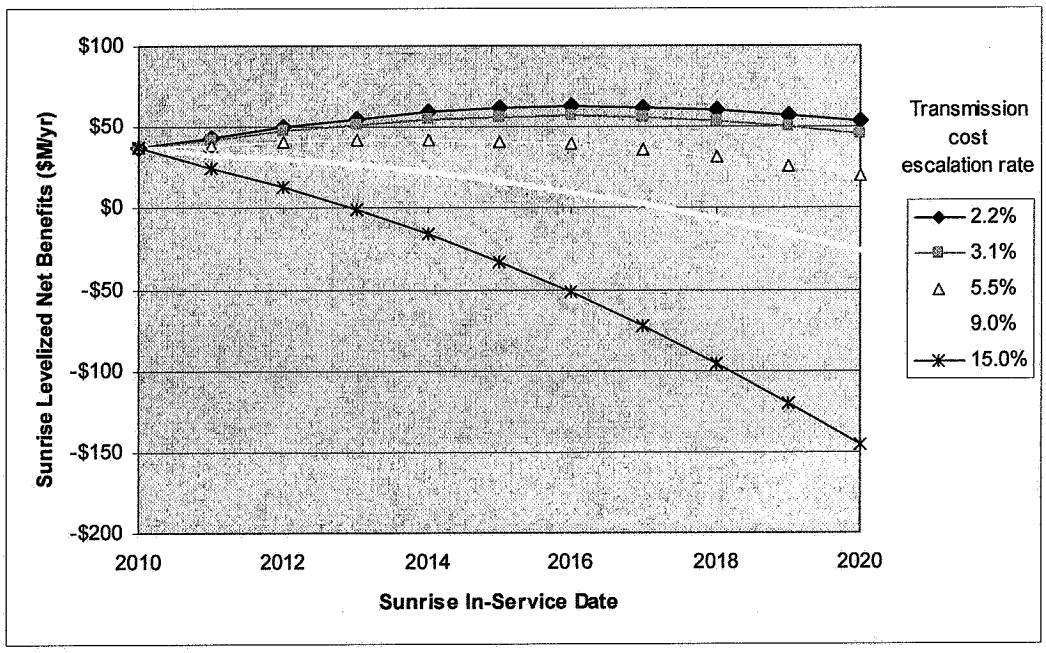

Figure 4: Sunrise Levelized Net Benefits

Table 5: Sunrise Levelized Net Benefits ($million/yr)

	Transmission cost escalation rate				
	2.2%	3.1%	5.5%	9.0%	15.0%
2010	$ 37.4	$ 37.4	$ 37.4	$ 37.4	$ 37.4
2011	$ 43.1	$ 41.8	$ 38.3	$ 33.2	$ 24.5
2012	$ 50.1	$ 47.6	$ 40.9	$ 30.9	$ 12.9
2013	$ 55.3	$ 51.8	$ 42.1	$ 27.2	$ (0.8)
2014	$ 58.9	$ 54.5	$ 42.0	$ 22.2	$ (16.4)
2015	$ 61.3	$ 56.0	$ 41.0	$ 16.5	$ (33.5)
2016	$ 62.6	$ 56.6	$ 39.2	$ 10.1	$ (52.0)
2017	$ 62.1	$ 55.5	$ 35.9	$ 2.3	$ (72.8)
2018	$ 60.3	$ 53.1	$ 31.6	$ (6.6)	$ (95.5)
2019	$ 57.4	$ 49.7	$ 26.4	$ (16.2)	$ (119.9)
2020	$ 53.5	$ 45.4	$ 20.4	$ (26.5)	$ (146.0)

Q. What other significant uncertainties can affect the deferral value of Sunrise?

A. As shown in Figure 3 above, the RPS cost of renewable resources is the major reason for the positive deferral value that accrues under relatively low rates of transmission cost inflation.

The CAISO recognizes that the cost of delivered renewable resources is uncertain, as is the assumption regarding the amount of renewable resources that California could import from regions outside of California. As an alternate scenario, the CAISO has modeled solar thermal at $100/MWh, wind at $85/MWh, and has assumed that California could import only 25% of the renewable energy available from long distance out-of-state sources (as compared to the 50% assumption in the CAISO's April 20, 2007 analysis).

This alternative RPS procurement Scenario is consistent with the following assumptions:

ATTACHMENT O

EXCERPT FROM SDG&E SUPPLEMENTAL TESTIMONY
WITNESS LINDA BROWN
DATED JANUARY 26, 2007
PAGES 55-56

SUNRISE POWERLINK

CHAPTER VII
SUPPLEMENTAL TESTIMONY

SDGE
A Sempra Energy utility

Application No.: A.06-08-010
Exhibit No.: _____
Date: January 26, 2007
Witnesses: Linda P. Brown (Reliability)
Jan Strack (Economics)

commission-ordered obligation to serve." SDG&E is not offering competitive services on Sunrise (the CAISO will operate the line and determine access), and SDG&E is building the line to meet its obligation to reliably deliver power to consumers within the San Diego area. Given these premises, Sunrise does not fall within the section's threshold requirement, but, indeed, it is specifically exempt.

SDG&E will seek a finding to this effect from the Commission in its CPCN decision on the Sunrise Powerlink application.

M. SDG&E's Contingency Plan if the Project is Delayed (Scoping Memo at 16)

In the unfortunate event that the proposed project cannot be in place by the summer of 2010, at least 247 MW of in-basin generation or increased import capability would be needed to satisfy the identified reliability deficiency. This deficiency grows over time (reaching 835 MW by year 2020). In response to this growing deficiency, SDG&E must implement alternative schemes to meet the San Diego area reliability requirements.

Certain new in-area generation options may be feasible. It might be possible to install enough new gas turbines to meet the San Diego area local reliability requirement for a few years. SDG&E, on behalf of its bundled customers, has issued a Request For Offer to see if additional peaking capacity can be economically added to the service territory by the summer of 2008. Assuming no other local plants retire, this additional peaking capacity would meet part of the identified need beginning in year 2010. SDG&E has also identified in its resource plan filed in R.06-02-013, a resource need starting in 2010 for additional capacity to meet bundled customers needs. A portion of this capacity

may need to be in the form of new in-area generation if the Sunrise Powerlink is delayed. However, over the longer term it is impractical and inefficient to build enough gas turbines to satisfy the San Diego area reliability requirement, even without considering the obvious consequences for air quality. Even the most efficient gas turbines emit significant amounts of particulate matter (PM), sulfur dioxide (SO2), nitrogen oxides 9NOx), carbon monoxide (CO) and volatile organic compounds (VOC).[40] Case 200, SDG&E's gas-turbine reference case, requires 18 gas turbines each sized 46.6 MW to meet local reliability requirements in year 2020.

In such circumstances, it may be useful to explore the terms and conditions under which any in-area generating units that were recently retired, or that are planned to be retired, could possibly be returned to service for the limited purpose of addressing the San Diego area local reliability requirements until the Sunrise Powerlink can be placed in service. Given the advanced age of much of the generating capacity in the San Diego area, land use and ownership issues, and the environmental restrictions associated with continuing their operation, it is not obvious that such explorations would prove fruitful. In any event, such contingencies address only the reliability issue, and do not help meet the RPS or economic objectives of the project.

1. Combined Cycle Generation Is Not The Resource Of Choice To Meet Peaking Load Requirements

Identifying the generation resource best suited to meet peak requirements is influenced by the following characteristics:

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[40] "Generic Environmental Assessment for the Purchase of Additional Combustion Turbine Capacity", Tennessee Valley Authority (TVA), September 2006, Final Environmental Assessment, Project Number 2006-122.p6.

ATTACHMENT P

CROSS EXAMINATION OF SDG&E WITNESS JAMES AVERY
JULY 10, 2007
RECORD TRANSCRIPT PAGES 330-331

front of me earlier this morning by the Center for Biological Diversity, and it was referred to as Appendix A, I believe.

In that appendix is a new schedule of what would be constructed, when, so that we can still meet that date.

Q If you were unable to meet the 2010 -- the June 2010 date, let's say, for instance, that the date would slip by a year, what actions would SDG&E have to take in the meantime?

A If it were to slip by a year, we would probably work with the ISO to try to extend the life of the South Bay Power Plant by a year.

I don't know specifically whether it would be all units.

We may make an emergency Application at the CPUC to install gas turbines.

I think it depends on the circumstances under where we start going or how we start going.

It would probably entail an emergency Application to the Commission to do something else.

Q And would your answer change if hypothetically we're talking about 2012 instead of 2011?

A I think the longer it slips, our plan of service would have to change. I -- we'd have to do something different if it were two years versus three years versus four years.

I think Jan Strack's testimony has put forth

the costs associated with doing that as well.

In other words, if we slipped one year and we extended the South Bay contract a year, that would cost us some dollars for that delay; if we slip two years, what it would cost us for that delay, and three years, and so on.

Q (Nodding head)

In your direct testimony you talk about the estimated cost of building the Sunrise project, and the number in your testimony is $1.265 billion?

A That -- that is correct.

Q Is that the price for the entire project from the Imperial Valley?

A That is correct. That is the entire project assuming no participation from IID.

If IID were to participate, our share would go down considerably, and IID would pick up its share.

And then, under the -- the arrangements, as I understand them today, Citizens Energy would come in and finance that and become a participating transmission owner for those facilities that would be dedicated to the ISO, and they would have a revenue requirement with the ISO to recover that.

Q When was this -- when was this particular cost estimate developed?

A I believe it was done right about the time of our filing in August, but Ali Yari is the one who prepared the estimate, and he can give you the specific